

8
Claims

1. A plugging fluid for plugging a subterranean formation zone surrounding a drill hole consisting of an emulsion comprising:

a) an oil phase containing

- i. an oil
- ii. an emulsifier
- iii. 2.4-4 kg of cement per liter of oil

b) an aqueous phase containing

- i. water
- ii. 12-16 g of a polysaccharide per liter of water

Wherein the oil to water volume ratio ranges from 20:80 to 25:75.

2. The plugging fluid according to claim 1, characterized in that it further comprises a setting accelerator agent containing divalent or trivalent metal ions.

3. The plugging fluid according to claim 2, characterized in that the metal ion is Ca^{2+} .

4. The plugging fluid according to any of claims 1 to 3, characterized in that it further comprises a clay extender.

5. A plugging fluid according to any of claims 1-4 comprising per cubic meter of fluid:

- a) 133-166 liters of oil
- b) 6-12 liters of emulsifier
- c) 3-4 kg of polysaccharide
- d) 600-700 kg of cement
- e) 0-7kg of calcium hydroxide
- f) 466-500 liters of water.

6. A method for preparing the plugging fluid according to any of claims 1-5 comprising the steps of dissolving the emulsifier into the oil, adding cement to the oil, optionally adding the setting accelerator and adding the polysaccharide to the agitated oil phase to prepare a pre-mix and blending this pre-mix with water before pumping the plugging fluid into the well.

WO 00/75481

PCT/EP99/03946

9

7. A method of sealing a lost circulation zone in a wellbore comprising the step of pumping a plugging fluid according to any of claims 1-5 and initiating the gellation of the plugging fluid by shear forces.
8. The method of claim 7, characterized in that the shear forces are applied through the drill bit nozzles.
9. The method of claim 7, characterized in that the shear forces are applied to the fluid prior pumping it into the wellbore.

Add A1